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## Researchers provide new template for more effective handoffs

*Designed for same-department handoffs, can be used in other settings*

Citing the elusiveness of “standardized and reliable measurement tools” for patient handoffs, a group of researchers has come up with a set of seven “framings,” or interventions, they say can be used to improve them:

1. **information processing** — the most prevalent intervention in the literature;
2. **stereotypical narratives** — highlighting deviations from typical narratives;
3. **resilience** — transparency of thought processes, through conversation, to identify erroneous assumptions and actions;
4. **accountability** — the transfer of responsibility and authority;
5. **social interaction** — the perspectives of the different participants;
6. **distributed cognition** — how the transfer of care to a new provider can affect the network of specialized practitioners;
7. **cultural norms** — how group values are negotiated and sustained over time.<sup>1</sup>

“We initially approached this looking for weaknesses [in handoffs], because the conventional wisdom is there are weak points,” says **Robert L Wears, MD, MS**, professor of emergency medicine at the University of Florida and co-author of the article. “We started to do some basic observations on handoffs, with an initial goal of finding out how many minutes they took, how often the providers were interrupted, and so on.

## KEY POINTS

- The more similar departments are, the clearer the communication.
- There can be such a thing as “too much information” in a handoff.
- Processes should be outlined by an interdisciplinary team.

However, with the assistance of some social scientists who specialize in communication, we quickly came up with cases where the handoff was a mechanism for recovery where things had not reached a disaster point yet. So, we determined that we had it all wrong and that we needed to start over from a blank slate.”

The team ended up reviewing about 400 articles in the literature. “These all involved shift changes in the emergency department,” Wears explains. “That’s where we work, and we had a limited budget.” The reviews involved five hospitals — three in the United States and two in Canada.

It was important that the researchers made this distinction, notes **Charlotte Huber, RN, MSN,**

patient safety analyst with the Pennsylvania Patient Safety Authority.

“I believe there is a consensus about the purpose of handoffs, but what they’re trying to say is there’s not a consensus about how they should be done in different units; there are different types of handoffs in different units, and between health care providers and paraprofessionals — it depends on who’s doing the handoff,” she says. “If you have a handoff from one nurse to another nurse, that a clearer handoff; where if a nurse is handing off to a physician assistant, that’s a different type of handoff.

“If I work in the ICU and transfer a patient to a regular floor, I would probably have clean communication,” she continues, “but if the nurse handing off works in the ED and I’m in a different area, the areas are different and the technology is different.”

## Are framings transferrable?

Despite these challenges, Wears believes the framings could be applied in different settings. “It depends on the setting,” he says. “Some of the framings may be more dominant in some transfers than in others.” Actually, he adds, that is one of the reasons the researchers came up with multiple framings — so the providers would not have to choose just one. “Several may be operative at one time; some may be more dominant in different times,” he notes. “Understand what you are doing, and choose what is most useful for that type of setting.”

Huber agrees. “I really like how they describe those seven framings, and they are absolutely applicable outside a given department,” she says. “One misnomer is that handoffs only involve information processing; they are so much more complicated than that. Sometimes one framing would be emphasized more, and sometimes less. It depends on who the giver and receiver of information are and where the patient is coming from or going to.”

Huber says she found much of value in the article. “One of the things that is really important is to have a coordinated pre-transport communication process; you can’t just rely on a piece of paper having every single solitary thing you can think of,” she says. “The other thing that was identified in the paper that was essential was a lack of noise — trying to do the handoff in a quiet area. I cannot tell you how loud the units can be [for nurses], and it’s the same for physicians; when you have

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Editor: Steve Lewis, (678) 740-8630, ([steve@wordmaninc.com](mailto:steve@wordmaninc.com)).  
Senior Vice President/Group Publisher: Don Johnston, (404) 262-5439, ([don.johnston@ahcmedia.com](mailto:don.johnston@ahcmedia.com)).  
Associate Publisher: Russ Underwood, (404) 262-5521, ([russ.underwood@ahcmedia.com](mailto:russ.underwood@ahcmedia.com)).  
Managing Editor: Jill Robbins, (404) 262-5557, ([jill.robbins@ahcmedia.com](mailto:jill.robbins@ahcmedia.com)).

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### EDITORIAL QUESTIONS

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several admissions at the same time when you get to the floor, you have to coordinate that in a quiet area. You have monitors and respirators going, a lot of technology that's beeping — the IVs, the pumps, all those other competing sounds.”

Robust education and competencies also are critical, she says. “Those who are developing the tools have got to get them to the physicians and nurses doing the handoffs, so they're not asking for extraneous information.” Huber notes. Simulations, she adds, “are awesome.”

## Making it work

The handoff processes, says Huber, should be handled by an interdisciplinary team. “One thing that would be really great to do is for departments to keep a log and figure out all of the transports or those kinds of handoffs they do daily,” she says. “Administration would see where the predominance of them occur and focus on them — that way they'd get the most bang for the buck.”

When working within a given unit, says Wears, “We like a co-construction framework, where both parties try to mutually build a shared description of what's happened with the patient so where they've been, where they're headed, what pitfalls exist, and what remains to be done. Typically, you do not need a lot of details about unrelated facts; you need the big picture — like ‘This is a GI bleeder,’ which conjures up a mental picture. You need some idea of what the course of treatment has been; this is important to co-construction, because the oncoming party then starts to probe for clarification. They might ask, ‘Why would you do that?’ or ‘Why did you not think about aortic dissection?’ The reply might be, ‘We considered X, but we ruled it out,’ or, ‘Well, we actually did not think about that.’ Ultimately, they will have the same picture.”

Wears says he just heard of a facility that instituted a policy requiring the “off-going” person to call back in an hour to make sure all the important issues had been covered. “I think this is a nice policy,” he says. “Formalizing something like that is probably a good idea.”

When crossing organizational boundaries, Wears continues, “People do have different expectations, but I like to think that articulating those expectations and coming up with an approach would be useful.” This is more difficult, he concedes, in teaching settings, in that residents turn over often, so “communal wisdom” is more difficult to attain. “But in other settings, it's possible

## Interns overestimate handoff effectiveness

It seems that effective handoffs plague interns, too. In a recent article in *Pediatrics*, post-call interns were asked to predict what the on-call interns would report as the important pieces of information communicated during the handoff about each patient.<sup>1</sup> They also guessed on-call interns' rating of how well the handoffs went. In addition, on-call interns were asked to list the most important pieces of information for each patient that post-call interns communicated during the handoff, and how well the handoffs went. Interns had access to written handoffs during the interviews.

Out of 52 interviews that were conducted, the most important piece of information about a patient was not successfully communicated 60% of the time — despite the fact that the post-call interns believed that it was. The authors say the study demonstrates that “systematic causes of miscommunication may play a role in handoff quality.”

### REFERENCE

1. Chang VY, Arora VM, Lev-Ari S, et al. Interns Overestimate the Effectiveness of Their Hand-off Communication. *Pediatrics*. 2010 Mar;125(3):491-6. Epub 2010 Feb 8. ■

because staff stick around longer,” says Wears. What's important, he adds, is “the ability to have some sort of shared information artifact. For example, people have had some success with the ability to look at a face sheet summary of what's going on — i.e., ‘Things that need to be checked tonight.’ This way, both parties can look at the same artifact.” It doesn't have to be extremely detailed, he adds. “You can just hit the high spots.”

One of the things he learned from his co-author, he emphasizes, “is that the purpose of a handoff is not a complete data dump, but [providing enough information to] let the next person act safely and effectively. If you send every possible bit of infor-

mation, the important stuff will be drowned out by the irrelevant stuff. Focus on what might happen, and what might be useful.”

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1. Patterson ES, Wears RL. Patient handoffs: standardized and reliable measurement tools remain elusive. *Jt Comm J Qual Patient Saf.* 2010;36:52-61.

#### SOURCES:

*Charlotte Huber, RN, MSN. Patient Safety Analyst, Pennsylvania Patient Safety Authority, P.O. Box 706, 5200 Butler Pike, Plymouth Meeting, PA 19462-0706. Phone: 1-610-825-6000 x5036. Fax: 610-567-1114 Email: chuber@ecri.org.*

*Robert L. Wears, MD, MS, University of Florida. Phone: (904) 244-4405. E-mail: wears@ufl.edu. ■*

## PI initiative yields impressive turnaround

*Teamwork, persistent monitoring key*

Not too long ago, Irwin Army Community Hospital, in Fort Riley, KS, had an obvious quality issue; more than 30% of its “board” results — results used to determine if there are adequate medical reasons to “separate” a soldier from the military — were being returned, which in many cases required a repeat of the process.

Now, the facility is basking in the glow of receiving a top U.S. Army Surgeon General’s award — the “Excalibur” — for its success in improving its process and decreasing the rate of returned board packets. “Currently, we have the best return rate in our region, at 3.7%,” says **Mark Rivera**, chief of the patient administration division.

“The physical evaluation board [PEB] is a process to serve the soldier and the army — for a soldier injured in the line of duty,” Rivera explains. “When they have a condition that fails retention standards, they can’t go on with a military career. The military has a process by which the soldier is evaluated and awarded a pension.”

At the medical treatment facility, or MTF, level, a physician will evaluate the soldier and complete a medical report stating he or she either

### KEY POINTS

- Missing information, need for additional test can be cause for “returns.”
- Another set of eyes’ helps minimize errors in reports.
- Multidisciplinary team designed the PI interventions.

met or failed retention standards. Then, physical evaluation board liaison officers, or PEBLOs, gather the required documentation for the medical evaluation board, or MEB. This includes clinical, administrative, and performance data.

Once that is completed, the packet is sent to the Fort Lewis PEB, which reviews all boards for the region. “They adjudicate and determine if the soldier is fit or unfit,” says Rivera. “If they are fit, they return to duty; if unfit, they determine if they are eligible for compensation and the percentage of disability. This comes to us, and we advise the soldier of the findings.” For those facilities that submit boards to the Fort Lewis PEB, Rivera adds, the returns are expected to be no more than 10%.

For what reasons are these boards returned? “If the packet is missing information, or if additional physical conditions need to be addressed before the higher echelon can make a decision, they kick it back to us,” says **Deanna Wolnik**, chief of quality management in the clinical operations division. “The packet might be missing some administrative information related to the soldier or their medical condition, or it may not have contained enough justification by the providers.”

When boards are returned, she adds, “it results in delays in processing the service member, which is a disservice to them; potentially, we have to redo the board or parts of it, so it is sent back to the physicians, which results in added costs to the facility and the government.”

### Addressing the problem

In order to address the situation, “we brought a team together that included the deputy commander of clinical services of the hospital; our MEB physicians; our MEB nurse; the physical therapy clinic; the behavioral health clinic; the PEBLOs; and our contact representative support

staff as well. It was definitely multidisciplinary,” says Rivera. The team came up with several recommendations.

One of those recommendations involved after-action reviews. “In the past, when a we got a case returned, that return letter went to whoever’s case it was — one PEBLO,” says Rivera. “They’d have to fix it, and they did not always communicate with the other PEBLOs and doctors. So, say something had been missing that dealt with a back disability. The very next month, a different PEBLO might get a return for the same reason.”

Now, he says, depending on the reason for the return, “the right team” is brought together — which could, for example, involve physicians, physical therapists, or behavioral health — to discuss why the case was returned, and come up with a plan for preventing such returns in the future. “We communicated up and down line — PEBLOs, contact representatives, the affected clinic, and if necessary, the deputy commander of clinical services, to address the specific changes needed,” says Rivera.

Often, he continues, the facility would get a return because supporting documentation such as MRIs, surgical reports, or lab work would be missing in a packet. “We developed a process where the PEBLOs themselves had access to these reports and then developed a shared drive to assure the relevant clinical consultants had put it in the packet and in the record,” says Rivera. “We started including all relevant medical documentation directly in the MEB packet so it was at the fingertips of the adjudicator; this eliminated many returns.” The team, he adds, developed and refined a PEBLO checklist to make sure everything that was required was in the actual case file before it was mailed.

Another improvement that was instituted was the quality check. “The PEBLO does a quality review throughout the process, and before we mailed the packet they would do one last quality check and then give it to one of the contact representatives’ support clerks to make sure all the administrative data were correct as well, and to one other PEBLO to review the case,” says Rivera.

This had educational value as well, he notes. “PEBLOs who review the packets see how the other PEBLOs do cases, so they learn from each other,” he explains. “Visitors are surprised by how much across-the-board knowledge we have; it’s one of the major reasons why we’ve been successful.”

The quality check, adds Wolnik, is like an audit.

“You go back into the individual’s medical record and make sure all the results available on that individual were incorporated, that all consults required to be done with specialists were completed and included as part of the board,” she explains.

## **Teamwork is critical**

“I think the No. 1 key to our success was that this is an absolutely excellent example of teamwork throughout the facility,” adds Wolnik. “It is not thought of as just one office issue or problem; we get all the players involved. There was also excellent support from command for our efforts. If we did not have buy-in from the top down, these improvement activities would have been that much more challenging to make successful and sustain.”

Wolnik says she reports to process improvement every six months to show that the return rate has either been sustained or that there are issues that need to be addressed. For example, there were a couple of years where the rates rose again, due to the return of the First Infantry, resulting in a large influx of soldiers, and an increased workload due to staffing issues. These issues ultimately were addressed, however, and “We were advised recently that the return rates are still holding at what may be the lowest percent that has been returned throughout the army,” says Wolnik.

The MEB process has evolved over the last five years, says Rivera, and “We react quickly to change. We report monthly and have several quality review checks of the entire process. When we see something trending wrong, we look at developing procedures to prevent it from continuing.”

One such response involved the MEB dictation. “The PEBLO will take the dictation and type up a proceedings form, which has to be signed by the dictating physician — and, in some cases, more than one, such as physical and behavioral,” Rivera explains. “A senior doctor in charge then has to review the case, as well as the deputy commander of clinical services. Then, it is presented to the soldier.”

There was a time, he says, when the process took more than 21 days. “We developed a procedure that reduced the time to three days,” says Rivera. “We set up an office in the MEB section, so instead of going from clinic to clinic for signatures, the doctors come up here at least twice a week to review all cases. The contract representative sends them e-mails daily on what needs to be signed.” ■

# A skeleton key to the new UTI guidelines

*Cutting through the recommendations*

The Centers for Disease Control and Prevention (CDC) has completed a massive update and revision of its 1981 guidelines to prevent catheter-associated urinary tract infections (CA-UTIs).<sup>1</sup> A painstaking review of reams of evidence — even the appendix is 268 pages long — boils down to some of the common-sense measures that many infection preventionists on the front lines are already practicing.

“When you look at the guidelines in general, the primary strategy is trying to minimize urinary catheter use. That’s definitely where we have focused our efforts. And once they are in there — get them out as quick as possible,” says **Titus Daniels, MD, MPH**, associate hospital epidemiologist at Vanderbilt University Medical Center in Nashville, TN. “One of the things we have found successful is to make this a nursing-directed initiative so they can remove them whenever the patient no longer needs them rather than waiting for the physician to actually write an order. It gives the nurses a lot of ownership.”

Indeed, the new CDC guidelines specifically recommend establishing “protocols for nurse-directed removal of unnecessary urinary catheters” as one of the quality improvement projects recommended for reducing CA-UTIs. (See [related story, page 56.](#))

“It would be a good idea to initiate quality improvement projects for hospitals focusing on CA-UTIs for a couple of reasons,” says **Sanjay Saint, MD, MPH**, a health care epidemiologist at the University of Michigan Health System in Ann Arbor. “The first reason is that now we actually have some evidence about what we should be doing based on these HICPAC guidelines and other [guidelines and articles]. Not only to prevent CA-UTIs, but noninfectious complications associated with indwelling catheters.”

This does not have to approach rocket science to be successful. For example, IPs at one hospital reduced the mean duration of catheterization from 4.5 days to 2.8 days after adding a bright yellow sticker to the patient’s chart that requested a few pieces of information: Does the patient have an indwelling urinary catheter? If so, when was it inserted and how long has it been in place? A

## KEY POINTS

- Minimizing urinary catheter use is the focus of the efforts.
- CDC guidelines recommend establishing nurse-directed protocols.
- CMS guidelines put money at stake for reducing CA-UTIs.

statement to “Please consider if the IUC is still necessary” was the sticker’s concluding reminder.

“The nurses took ownership of it, and they were very involved in it,” says **Judy Ptak, RN, MSN**, infection preventionist at Dartmouth-Hitchcock Medical Center in Lebanon, NH. “It was coming from them. That was one of the keys.”

The nurses still need to confer with the doctors on removing the catheter, but the prompt moves the process forward at the hospital, which is now considering incorporating the approach as part of its switch to an electronic charting system, she notes.

In any case, hospitals will take particular note of the CDC UTI guidelines because there is, to put it bluntly, money at stake. CMS has reduced reimbursements for additional costs generated by CA-UTIs in 2008.

“Hospitals now have more of a financial stake in the prevention of CA-UTIs,” Saint says. “Given the long time lag between the previous CDC CA-UTI recommendations, people are now looking to operationalize these guidelines. This guideline, like most guidelines, primarily gives an assessment of the evidence, which is very important because that is the starting point. With so much data, it’s impractical to expect IPs and hospital epidemiologists to do their own literature searches and evidence review. The CDC has done that, given a grade to evidence, and done it in a fairly transparent way.”

Between 15% and 25% of hospitalized patients may receive short-term indwelling urinary catheters, the CDC notes in the guidelines. In many cases, catheters are placed for inappropriate indications, and health care providers often are unaware that their patients have catheters, leading to prolonged, unnecessary use. In particular, the prevalence of urinary catheter use in residents in long-term care facilities in the United States is on the order of 5%, representing approximately 50,000 residents with catheters at any given

# CDC recommends QI to reduce CA-UTIs

*Implement based on facility risk assessment*

The Centers for Disease Control and Prevention (CDC) recommends that infection preventionists implement quality improvement (QI) programs or strategies to enhance appropriate use of indwelling catheters and to reduce the risk of CA-UTI based on a facility risk assessment.<sup>1</sup>

That recommendation — and all others in this summary unless otherwise noted — is listed as Category IB, which the CDC Healthcare Infection Control Practices Advisory Committee (HICPAC) defines as: “A strong recommendation supported by low quality evidence suggesting net clinical benefits or harms or an accepted practice (e.g., aseptic technique) supported by low to very low quality evidence.”

The purposes of QI programs should be:

- 1) to assure appropriate utilization of catheters;
- 2) to identify and remove catheters that are no longer needed (e.g., daily review of their continued need);
- 3) to ensure adherence to hand hygiene and proper care of catheters. Examples of programs that have been demonstrated to be effective include:
  - a system of alerts or reminders to identify all patients with urinary catheters and assess the need for continued catheterization;
  - guidelines and protocols for nurse-directed removal of unnecessary urinary catheters;
  - education and performance feedback regarding appropriate use, hand hygiene, and catheter care;
  - guidelines and algorithms for appropriate perioperative catheter management, such as:
    1. procedure-specific guidelines for catheter

placement and postoperative catheter removal;

2. protocols for management of postoperative urinary retention, such as nurse-directed use of intermittent catheterization and use of bladder ultrasound scanners.

Recommendations considered essential for all health care facilities caring for patients requiring urinary catheterization include the following high-priority recommendations, which were chosen in part on the likely impact of the strategy in preventing CA-UTI.

## Appropriate Urinary Catheter Use

- Insert catheters only for appropriate indications, and leave in place only as long as needed.
- Avoid use of urinary catheters in patients and nursing home residents for management of incontinence.
  - For operative patients who have an indication for an indwelling catheter, remove the catheter as soon as possible postoperatively, preferably within 24 hours, unless there are appropriate indications for continued use.

## Aseptic Insertion of Urinary Catheters

- Ensure that only properly trained persons (e.g., hospital personnel, family members, or patients themselves) who know the correct technique of aseptic catheter insertion and maintenance are given this responsibility.
- In the acute care hospital setting, insert catheters using aseptic technique and sterile equipment.

## Priority Recommendations for Proper Urinary Catheter Maintenance

- Following aseptic insertion of the urinary catheter, maintain a closed drainage system.
- Maintain unobstructed urine flow.

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1. Gould CV, Unscheid CA, Agarwal RK, et al. Centers for Disease Control and Prevention Healthcare Infection Control Practices Advisory Committee (HICPAC). Guideline for prevention of catheter-associated urinary tract infections 2009. Available at: [http://www.cdc.gov/ncidod/dhqp/dpac\\_uti\\_pc.html](http://www.cdc.gov/ncidod/dhqp/dpac_uti_pc.html). ■

time. The high prevalence of urinary catheters in patients transferred to skilled nursing facilities suggests that acute care hospitals should focus more efforts on removing unnecessary catheters prior to transfer, the CDC advises.

Although morbidity and mortality from CA-UTI is considered to be relatively low com-

pared to other HAIs, the high prevalence of urinary catheter use leads to a large cumulative burden of infections with resulting infectious complications and deaths. An estimate of annual incidence of HAIs and mortality in 2002, based on a broad survey of U.S. hospitals, found that urinary tract infections made up the highest number of infec-

tions (> 560,000) compared to other HAIs, and attributable deaths from UTI were estimated to be over 13,000 (mortality rate 2.3%). And while fewer than 5% of bacteriuric cases develop bacteremia, CA-UTI is the leading cause of secondary nosocomial bloodstream infections; about 17% of hospital-acquired bacteremias are from a urinary source, with an associated mortality of approximately 10%.

The source of microorganisms causing CA-UTI can be endogenous, typically via meatal, rectal, or vaginal colonization, or exogenous, such as via contaminated hands of health care personnel or equipment. Microbial pathogens can enter the urinary tract either by the extraluminal route, via migration along the outside of the catheter in the periurethral mucous sheath, or by the intraluminal route, via movement along the internal lumen of the catheter from a contaminated collection bag or catheter-drainage tube junction. Again, the key appears to be avoiding unnecessary catheterization in the first place and then removing those appropriately placed catheters as quickly as possible after they are no longer needed.

Cutting through the thicket of recommendations and references, Saint says IPs can best implement the CDC guidelines by taking an elementary “ABCDE” approach. “That’s the way I distill it down,” says Saint, an expert on CA-UTI prevention who has reviewed the CDC guidelines and similar recommendations by other medical groups. Here are Saint’s alphabetic essentials:

- A is for Adherence. “Adherence to generally accepted infection control principles — hand hygiene, education, feedback, aseptic insertion technique, surveillance. Those types of activities.”
- B is for Bladder ultrasound to avoid placing an unnecessary indwelling catheter.
- C is for Condom catheter or some other type of intermittent catheterization in appropriate patients.
- D is for Do not use a catheter unless you must. “That’s means avoiding indwelling catheterization, especially in the emergency department.”
- E is for Early catheter removal using nursing protocols, written or computerized reminders, or stop orders.

“For me, those are the five key features of the evidence,” Saint says. “Unfortunately, I think there is only one that has a 1A [CDC grade of evidence]. “Everything is 1B or less, and that highlights the need for more research.”

Indeed, the CDC guidelines may inadvertently reinforce the perception that surefire approaches

to UTI prevention are few and far between. In that regard, the CDC reminds in the guidelines that “it is important to note that Category I recommendations are all considered strong recommendations and should be equally implemented; it is only the quality of the evidence underlying the recommendation that distinguishes between levels A and B.”

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1. Gould CV, Umscheid CA, Agarwal RK, et al. Centers for Disease Control and Prevention Healthcare Infection Control Practices Advisory Committee (HICPAC). Guideline for prevention of catheter-associated urinary tract infections 2009. Available at: [http://www.cdc.gov/ncidod/dhqp/dpac\\_utipc.html](http://www.cdc.gov/ncidod/dhqp/dpac_utipc.html). ■

## Research on discharge for coronary patients

### *New therapies not always quickly adopted*

Several new studies highlight the need for more thorough discharge planning in the care of coronary and congestive heart failure patients. Such patients often are elderly and susceptible to adverse events and drug-drug interactions from standard medication treatment.<sup>1</sup>

Also, there often is too long of a lag time from when new evidence leads to guidelines outlining a more optimal treatment to when the treatment is implemented by clinicians.<sup>2</sup>

This trend, in particular, is noted in the context of aldosterone antagonist use, in which less than one-third of eligible patients hospitalized for heart failure received aldosterone antagonist therapy as recommended in guidelines.<sup>3</sup>

The aldosterone antagonist-use study resulted from a review of the American Heart Association’s heart failure database, says **Nancy M. Albert**, PhD, CCNS, CCRN, NE-BC, FAHA, FCCM, director of nursing research and innovation in the Nursing Institute, and a clinical nurse specialist at the Kaufman Center for Heart Failure in Cleveland.

Investigators identified 12,565 patients eligible for aldosterone antagonist therapy out of a database of more than 43,000 heart failure patients. All of the eligible patients had been treated at hospitals that participated with the Get with the Guidelines Heart Failure Program by the American Heart Association, a quality improve-

## KEY POINTS

- Recent studies show more discharge planning is needed for coronary and congestive heart failure patients.
- There is often a lag between when new evidence leads to guidelines outlining an optimal treatment and the implementation of that treatment.
- Clinicians should give patients an ACE inhibitor to start.

ment initiative to improve usage of recommended evidence-based therapies.<sup>3</sup>

Only 34% of eligible patients, at the end of 2007, had been given aldosterone antagonist therapy at discharge, Albert says. (See story on why recommended therapy was under-prescribed, page. 58.)

Study findings reflect that physicians and discharge planners need to stay current with guidelines for managing heart failure, and they should develop systems or processes to enhance evidence-based practices, Albert says.

“They need to make sure patients are receiving optimal medical therapies that ultimately will improve survival and decrease hospitalization,” she says.

Another study, published last fall in the *American Journal of Geriatric Pharmacotherapy*, showed that hospital clinicians generally were not offering medications that might be beneficial for elderly heart failure patients.<sup>1</sup>

For example, the use of ACE inhibitors in heart failure patients can be seen as an indicator of how well hospitals are taking care of these patients, says **Judy W. M. Cheng**, PharmD, MPH, FCCP, BCPS, RPh, professor of pharmacy practice at the Massachusetts College of Pharmacy and Health Sciences in Boston.

“And the percentage of use of ACE inhibitors is lower in elderly patients,” Cheng says. “We don’t know if these patients can’t tolerate them, or if people are not as aggressive in treating their disease.”

The problem with the drugs is they often cause patients’ blood pressure to drop, or they might worsen kidney function, Cheng says.

“Because those patients are older, they’re also more susceptible to experiencing orthostatic hypotension. When they change from lying down to sitting up, they get very dizzy, which is very common in older patients,” she explains. “If patients are

taking ACE inhibitors or beta blockers, which also impact blood pressure, then this will exacerbate this change in dropping blood pressure.”

The aldosterone antagonist study’s findings complement Cheng’s research.

“It sometimes is difficult to add aldosterone antagonist, because people worry it will make patients’ potassium levels dangerously higher,” Cheng says.

“That makes physicians more reluctant to prescribe them,” she adds. “So, a lot of times, they’ll say, ‘Let’s discharge these patients and let the outpatient doctor take care of it.’”

Further research is looking at improving adherence to treatment guidelines for patients with cardiovascular disease.

The ongoing investigation suggests that hospitals can use electronic health records to rapidly identify patients who would benefit from medication adjustments, says **Allen Kachalia**, MD, JD, a medical director for quality and safety at Brigham & Women’s Hospital in Boston.

In hospitals like Brigham & Women’s Hospital, such electronic information could be communicated to physicians by e-mail, resulting in more rapid adherence to guidelines, he says.

“We’re in the process of studying how effective this process is,” Kachalia says. “This program was designed at Brigham to help Brigham primary care patients.”

Investigators chose to communicate by having staff nurses e-mail physicians, because this method of communication doesn’t disrupt doctors’ workflow, he notes.

“In general, they all responded to us,” Kachalia adds.

This particular study looks at how hospitals can improve the discharge process and reduce readmissions among patients with cardiovascular-related diseases, including diabetes, coronary artery disease, heart failure, stroke, and chronic kidney disease.<sup>2</sup>

“The discharge process represents an opportunity to identify people at high risk for readmission, and then we can plug them into a program that will help prevent readmission,” Kachalia says.

The process employed by Brigham & Women’s Hospital is relatively inexpensive, since it was done with 0.4 nursing FTEs and a little bit of Kachalia’s time as medical director, he notes.

“I took the lead and looked at national guidelines, coming up with what the indications were,” he explains. “Then, the team verified them, and for each disease, we went to a resident specialist and

built in a list of what we'd screen people for and what medications to prescribe."

The specialists made sure the information was correct.

By engaging specialists in the process, the staff buy-in was easier to obtain, Kachalia says.

"We went to primary care physicians and would say, 'We looked at the guidelines, and our specialists say this is how we should operate,'" he says.

The primary care physicians agreed but made a suggestion: "They wanted e-mails sent much closer to when patients would come back to see them, rather than three months in advance," Kachalia says.

Hospital clinicians defer to primary care physicians on timing and ordering medications, but they follow cases continuously to make sure medications recommended in guidelines are prescribed, he says.

"We follow patients for three weeks after discharge and then follow indefinitely," he explains. "The idea is to have continuous monitoring, and we can do this with electronic charts."

The electronic health database can be programmed to provide reminders about checking up on patients or calling primary care physicians if there's a medication issue, Kachalia says. The results of this process soon will be available.

"We're going to see what the data show, and we hope we'll see a benefit that could result in a best practice," Kachalia says.

Clinicians involved in discharge planning should consider giving heart failure patients an ACE inhibitor to start, and The Joint Commission of Oakbrook Terrace, IL, wants documentation for reasons behind any decision not to prescribe ACE inhibitors when patients meet criteria for them, Cheng says.

In Cheng's research, this problem appears to be primarily in the care of elderly heart patients.

"I'm not sure why we're not meeting a high level of compliance," she says. "It's troubling."

If a hospital physician declines to prescribe an ACE inhibitor at discharge because he or she wants to leave the decision to the patient's community physician, then this can be a big mistake, she notes.

Hospital doctors might think the outpatient doctors will take care of these details, Cheng says.

But when patients see their community physicians, these doctors often think that if the hospital doctors didn't prescribe certain drugs, then maybe the patient doesn't need them, she adds.

The key is to improve discharge communication between hospital clinicians and patients, as well

as between the hospital and community clinicians, Cheng says.

"I know it's easy to say and hard to do," she says. "I think if a hospital physician makes a conscious decision that the outpatient doctor might be able to take care of it once the patient is more stabilized, then the hospital doctor should communicate this very clearly to the outpatient doctor."

Another strategy would be for the hospital doctor to prescribe a very low dose of the new medication, just so the medication would be on the patient's profile, Cheng adds.

"This is so the outpatient doctor would be more likely to titrate the dose up rather than to not even think about starting the drug," she explains.

One strategy in improving discharge planning with cardiovascular patients is to list the recommended therapies on a discharge assessment sheet and physician order set, Albert suggests.

"When the patient is discharged, then we can pick up on any therapies that were not appropriate or were appropriate but not fully utilized," Albert adds.

Also, if a therapy is recommended but not prescribed at discharge, then the discharge paperwork will highlight this discrepancy.

The goal at discharge is to make sure patients receive the optimal medical therapies, so that they have the best chance of improved quality of life, that they have improved survival, and do not need early rehospitalization, Albert says.

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## Lack of adherence in heart failure therapy

*Educate and monitor to improve results*

When research suggests changes in standard medical practice, the public health community expects physicians and hospitals to adopt the

new way and help improve patient outcomes.

But occasionally, as one study recently found, the medical community is very slow in adopting new treatment recommendations.

A good example of this is what has happened with hospitalized heart failure patients who are eligible for aldosterone antagonist therapy, according to a large database study, published in the *Journal of the American Medical Association* late last year.<sup>1</sup>

The study found more than 12,000 patients who were eligible for this therapy, which research has shown would have improved their health outcomes. But only about one-third of these patients had received the therapy, which was recommended in several national guidelines.<sup>1</sup>

The research was limited by what physicians had documented with regard to contraindications, says **Nancy M. Albert**, PhD, CCNS, CCRN, NE-BC, FAHA, FCCM, director of nursing research and innovation in the Nursing Institute, and a clinical nurse specialist at the Kaufman Center for Heart Failure in Cleveland.

“Maybe a patient had a contraindication, and the doctor knew it but didn’t document it,” Albert says. “If they didn’t document a contraindication with therapy, we would assume the patient was eligible to receive therapy.”

The analysis began in January 2005, and continued through December 2007, and there was a steady trend from baseline of improvement in the guideline-recommended use of aldosterone antagonist therapy from 28%, when the study began, to 34% when it ended, Albert says.

“The American Heart Association and American Cardiology Association gave their stamp of approval for using aldosterone in patients in 2005,” Albert says.

So investigators expected to see increased use of aldosterone antagonist therapy after the guidelines were updated. But they were surprised it was only a small increase, she adds.

This lackluster response to changing to using aldosterone antagonist therapy might have been due partly to a small discrepancy in how the guidelines were worded in 2005, Albert says.

“The guidelines should have said the treatment was recommended, but instead said it was reasonable to use an aldosterone antagonist, and that doesn’t have as strong a connotation,” she explains.

Although a correction was published in 2006, it’s possible that many physicians didn’t see the correction, she adds.

Also, none of the national performance measures for hospitalized heart failure patients include aldosterone antagonist therapy as a core measure yet, Albert notes.

“It could be that hospitals were so focused on doing what they had to do based on The Joint Commission’s performance measures and other expectations that they didn’t take the next step of doing what was right based on the guidelines,” she says.

Another factor is that one aldosterone antagonist is a generic drug that has been available as a potassium-sparing diuretic for years, Albert says.

“When we use it as an aldosterone antagonist, it’s at a different dosage and it’s for a different reason,” she says. “Because the drug has been available for many years, there has been no drug company marketing of the drug, so maybe lack of use is that it’s out of sight and out of mind.”

Some physicians might have been reluctant to prescribe aldosterone antagonist therapy because of the drug’s side effect profile, Albert says.

If the patient is already on some other therapies that are used to treat heart failure (such as an ACE inhibitor or angiotensin receptor blocker), they might have a higher risk of increased serum potassium and creatinine levels, she explains.

“So, maybe some health care providers were focusing on providing ACE-1 or ARB therapies, and maybe they had intended to start aldosterone antagonist therapy after the patient went home,” Albert says.

The database did not yield information about therapies initiated after discharge, she adds.

The point is that while there are numerous reasons why providers might not have followed the national guidelines, the fact is that for most patients deemed eligible for the treatment, the guidelines should have been followed, leading to improved patient outcomes over time, Albert says.

Since this is an area that has fallen through the

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cracks, it would be a worthwhile quality improvement project for discharge planners to raise awareness about the treatment and include information about aldosterone antagonists in discharge planning paperwork for patients who meet criteria for use, he notes.

“Hospitals could monitor the use of the therapy in patients with systolic heart failure,” Albert says. “If you have a registry or database, then you could keep track of your own data, and over time you should see the frequency of aldosterone antagonist use increase in patients who meet recommended criteria for receiving it.”

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# Survey sheds light on lack of senior planning

*Senior care isn't made a priority*

A new survey, conducted by a worldwide company that provides private, in-home care for older adults, suggests that older Americans and their adult children do a poor job of planning for their future needs as health begins to fail.

The survey, conducted by Home Instead Senior Care of Omaha, NE, had these findings:

- 73% of U.S. adult children and 65% of Canadian adult children say they have not planned or thought about their parents' care needs as they age.
- 50% of U.S. seniors and 58% of Canadian seniors likewise have not thought about their own care needs as their health begins to fail.
- 66% of seniors can name no more than two non-family care options.
- 67% of adult children have not used any potential information resources on senior care.
- 54% of seniors have not used information resources on senior care.
- Nearly 80% of seniors seem unaware of the need for long-term-care insurance.
- Seniors and adult children underestimate the cost of skilled nursing homes.
- About 25% of adult children are aware of adult day care centers, while 35% of seniors know these exist. ■

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